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| 10/671,548 | 09/29/2003 | Akira Murakawa | 018775-877 | 7496 |

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| EXAMINER | |
|---|---|
| GEE, JASON KAI YIN | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2134 | |

| NOTIFICATION DATE | DELIVERY MODE |
|---|---|
| 09/30/2008 | ELECTRONIC |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ADIPFDD@bipc.com

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/671,548 | MURAKAWA, AKIRA | |
| | Examiner | Art Unit | |
| | JASON K. GEE | 2134 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *12 June 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-12,17-20 and 22-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12, 17-20, and 22-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## *DETAILED ACTION*

1. This action is response to communication: response to RCE received 06/11/2008, with acknowledgement of benefit date of 06/12/2003.

2. Claims 1-12, 17-20, and 22-27 are currently pending in this application.

3. No new IDS has been received.

4. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 06/12/2003 has been entered.

## *Response to Arguments*

5. Applicant's arguments with respect to the amended claims have been considered but are moot in view of the new ground(s) of rejection.

6. However, several of the arguments still apply as the previous references are still being applied, and these arguments concerning the prior references have been considered but are not persuasive.

In regards to independent claims 1 and 7, the applicants argue that the references do not teach creating a second certificate when a connection for communication is requested by the client. However, this is taught by Smetters, such as

in paragraph 28, where it recites that the laptop 12(2) (client) may initially send the signals.

Further, the applicants argue that the references do not teach wherein the second certificate is signed with a private key. However, the references do teach such limitations. It is well known in the art that digital certificates are signed with a certificate authority's private key. This is how certificates operate. For example, this is sohwn in Smetters paragraph 25. Smetters further teaches that the secondary certificate and the root certificates are essentially created the same way, as seen in paragraph 31. Further, signing certificates with a private key is discussed in the new references applied as well.

### *Claim Rejections - 35 USC § 103*

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1, 4, 5, 7, 10, 12, 17, 20, and 22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smetters et al. US Patent Application Publication 2004/0088548 (hereinafter Smetters), and in view of Benussi et al. SU Patent Application Publication 2001/0044898 (hereinafter Benussi).

As per claim 1, Smetters teaches a communication system in which a device and a client communicate data with each other through a network, wherein said device comprises: a first storage device which stores a root certificate including a public key paired with a private key and being signed with a private key (paragraph 25); a certificate creator which creates, when a connection for communication is requested by said client, a second certificate designating the root certificate as a certificate authority at a higher levael and being signed with the private key (paragraph 28 and 31); and a communication device which transmits the second certificate created by said certificate creator to said client (paragraph 35); and wherein said client comprises a second storage device which stores the root certificate stored in said first storage device (paragraph 35); and a verifier which verifies the signature of the second certificate received from said device whith the root certificate stored in said second storage device (paragraph 42).

However, at the time of the invention, Smetters does not teach all the limitations of the claims. Smetters does not explicitly teach a second storage device which as already stored the root certificate before the connection for communication is requested. Smetters in paragraph 35 teaches that the root and the secondary are sent together at the same time. However, it would have been obvious to have stored the root certificate earlier. This is taught in paragraph 214 of Benussi. This paragraph also teaches that certificates are signed with private keys to confirm whether a certificate is genuine or not.

At the time of the invention, it would have been obvious to combine the Smetters and the Benussi reference. One of ordinary skill in the art would have been motivated to perform such an addition to create more security and also providing a system for configuring a connectivity unit that is user friendly and yet involving the provisions of user-specific communication parameters (Benussi paragraph 5).

As per claim 4, Smetters teaches the communiation syste where the client is a personal computer (paragraph 30).

As per claim 5, Smetters teaches wherein the second storage device is a hard disk drive (paragraph 19).

As per claim 7, Smetters teaches a communication method for a communiation system in which a device and a client communicate data with each other through a network, wherein the device holds a root certificate including a public key paried with a private key and being signed with the private key (paragraph 25); the client installs the root certificate which is held in the device and which includes the public key (paragraph 35), the device creates, when a connection for communication is requested by the client (paragraph 28), a second certificate designating the root certificate as a certificate authority at a higher level and being signed with the private key when data is sent to the client (paragraph 31); the device sends the second certificate to the client (paragraph 35); and the client verifies the signature of the second certificate received from the device with the installed root certificate (paragraph 42). Similar to claim 1, Benussi further shows that it would be obvious to have stored the root certificate earlier before the second certificate is created. . This is taught in paragraph 214 of Benussi. This

paragraph also teaches that certificates in general are signed with private keys to confirm whether a certificate is genuine or not.

As per claim 10, Smetters teaches wherein when the client installs the root certificate, the installation is performed after the root certificate is conformed by a user (paragraph 31).

As per claim 12, Smetters teaches wherein the data is communicated according to the security sockets later (SSL) protocol (paragraph 29).

Claim 17 is rejected using the same basis of arguments used to reject claim 1 above.

As per claim 20, Smetters teaches wherein the root certificate stored in said first storage device is stored in said second storage device prior to the transmission of the second certificate from said communication device (paragraph 27; also Benussi paragraph 214).

As per claim 22, Smetters teaches wherein said verifier is operable to verify the signature of the second certificate by decrypting the public key of the root certificate stored in said second storage device to obtain a first hash value, calculating a second hash value of the second certificate received from said device, and compring the first and second hash values to determine if they are equal to each other (paragraph 41 and 42).

As per claim 23, Smetters teaches wherein the device sends the second certificate to the client after the root certificate is installed in the client (paragraph 35 and Benussi paragraph 214).

As per claim 24, Smetters discloses wherein the client installs the at least oen intermediate certificate prior to receiving the second certificate from the device (paragraph3 5).

Claim 25 is rejected using the same basis of arguments used to reject claim 1 above.

9. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Smetters and Benussi as applied above, and further in view of Frailong et al. US Patent No. 6,012,100 (hereinafter Frailong).

As per claim 8, Smetters teaches holding at least one intermediate certificate for one or more certificate authorities existing in a hierarchical order up to a root certificate authority (Figure 7); the client installs the at least one intermediate certificate in addition to the root certificate (paragraph 35); the device sends the second certificate to the client (paragraph 31); the client verifies the signature of the second certificate received from the device with the at least one intermediate certificate installed therein, and verifies the signature of the at least one intermediate certificate received from the device with teh root certificate installed therein (paragraph 42).

For further clarification on hierarchical certificates and a device holding the certificates, see Frailong Figure 14 and col. 18 line 55 to col. 19 line 60, wherein a device holds the root certificate along with the intermediate and secondary certificates.

At the time of the invention, it would have been obvious to include the Frailong reference with the Smetters combination. One of ordinary skill in the art would have been motivated to perform such an addition to provide a system for connecting acomputer or client network to the internet with minimal user interaction and also automatically upgrading and reconfiguring a network interface connection between a computer or client network and an internet (col. 2 liens 15-22 of Frailong).

10. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smetters and Benussi as applied above, and further in view of Debry US Patent No. 6,918,042 (hereinafter Debry).

As per claim 2, the Smetters combination does not teach all the limitations of this claim. However, these deficiencies are taught by Debry. Debry teaches wherein a said device is a printer (col. 5 lines 59-60).

At the time of the invention, it would have been obvious to one of ordinary skill in the art to include the teachings of Debry with the Smetters combination. One of ordinary skill in the art would have been motivated to perform such an addition to provide print servers to which computer systems can be communicatively linked (col. 1 lines 5—53) and to protect printers themselves from malicious attacks (col. 5 lines 33-34)..

As per claim 3, Debry teaches wherein the device is a multifunctional peripheral (col. 6 lines 9-14).

11. Claims 9, 11, 18, 19, 26, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smetters and Benussi as applied above, and further in view of Debry US Patent No. 6,918,042 (hereinafter Debry) and Slick US Patent Application Publication 2004/0109568 (hereinafter Slick).

With regard to claim 9, Smetters discloses a method comprising: when the client installs the root certificate, the client requests the root certificate from the device ([0031" lines 5-7), receives the root certificate from the device ([0035]: lines 2-'3), converts the received root certificate to a predetermined format when the root certificate is received ([0026]: lines 7-10, since different types of certificates can be used; it is well known in the art for any of these certificates to be converted to one standard in order to communicate with each other), and installs the converted root certificate ([0035]: line 3, storing the certificates in memory reads on client installs the converted root certificate received from the client).

Neither Smetters nor Benussi discloses the device where the device is a printer. Debry, on the other hand, discloses the device is a printer (col. 5: lines 59-60).
It would have been obvious to one of the ordinary skill in the art at the time of the applicant's invention was made to modify the methods of Smetters and Benussi such that to include the device is a printer, as taught by Debry, and would be motivated to provide print servers to which the computer system can be communicatively linked (col. 1: lines 51-53) and to protect printers themselves from malicious attacks (col. 5: lines 33-34).

However, Smetters, Benussi nor Debry discloses a printer driver from the device is installed in the client device. Slick discloses a printer driver from the device is installed in the client ([0057]: lines 1-4).

At the time of the invention it would have been obvious to one of the ordinary skill in the art at the time of the applicant's invention was made to modify the methods of Smetters, Benussi and Debry to include the installation of a printer driver from the device, as taught by Slick, and would be motivated to provide the private key through a printer driver ([0005]: lines 8-11).

As per claim 11, and similar claims 18-19 and 26 - 27, Smetters discloses method/device where the client installs the root certificate after the printer driver from the device is installed in the client ([0035]: line 3, storing the certificates in memory reads on client installs the root certificate received from the client. Furthermore, it is well known in the art for a device to install a driver of that device prior to communicate with it as presented below) but neither Smetters nor Benussi discloses the device is a printer, and install the root certificate after a printer driver is installed from the device.

Debry, on the other hand, discloses the device is a printer (col. 5: lines 59-60). It would have been obvious to one of the ordinary skill in the art at the time of the applicant's invention was made to modify the methods of Smetters and Benussi such that to include the device that has print function, as taught by Debry, and would be motivated to provide print servers to which the computer system can be

communicatively linked (col. 1: lines 51-53) and to protect printers themselves from malicious attacks (col. 5: lines 33-34).

However, Smetters, Benussi nor Debry discloses a printer driver is installed from the device. Slick discloses a printer driver is installed from the device ([0057]: lines 1-4, further notes that in order communication with the printer; the printer driver needs to be active before any communication).

It would have been obvious to one of the ordinary skill in the art at the time of the applicant's invention was made to modify the methods of Smetters and Debry such that to include the installation of a printer driver from the device, as taught by Slick and would be motivated to provide the public key through a printer driver ([0005]: lines 8-11).

12. Claim 6 is rejected under 35 USC 103(a) as unpatentable over Smetters and Benussi as applied above, and further in view of Vogel et al. (US Pat. No. 6816900), hereafter "Vogel".

With regard to claim 6, Smetters discloses the communication system (Abstract) but neither Smetters, nor Benussi discloses the second storage device is a read-only memory. Vogel discloses the second storage device is a read-only memory (Fig. 2: item 150).

At the time of the invention, it would have been obvious to one of the ordinary skill in the art at the time of the applicant's invention to modify the methods of Smetters and Benussi such that to include a read-only memory for the second storage device in the communication system, as taught by Vogel, and would be motivated to provide a

more user-friendly way in which root certificates at the client computer can be managed (col. 2: lines 8-10).

## *Conclusion*

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason K. Gee whose telephone number is (571) 272-6431. The examiner can normally be reached on M-F, 7:00 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kambiz Zand can be reached on (571) 272-3811. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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09/23/2008

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